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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
08/787,743	01/24/97	HOEPLICH	29124-009

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OM21/0427

EXAMINER
BLAU, S

ART UNIT	PAPER NUMBER
3711	

DATE MAILED: 04/27/98

Pl ase find below and/or attached an Office communication concerning this application or proceeding.

Commislsioner of Patents and Trademarks

Office Action Summary

Application No.

08/787,745

Applicant(s)

Hoeflich

Examiner

Stephen Blau

Group Art Unit

3711

☒ Responsive to communication(s) filed on Feb 20, 1998

☒ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claims

☒ Claim(s) 1-3, 5-9, and 11-20 is/are pending in the application.

Of the above, claim(s) _____ is/are withdrawn from consideration.

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) 1-3, 5-9, and 11-20 is/are rejected.

☐ Claim(s) _____ is/are objected to.

☐ Claims _____ are subject to restriction or election requirement.

Application Papers

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☒ The drawing(s) filed on Jan 24, 1997 is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.

☒ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been
☐ received.

☐ received in Application No. (Series Code/Serial Number) _____.

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

☐ Notice of References Cited, PTO-892

☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). _____

☐ Interview Summary, PTO-413

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

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DETAILED ACTION

Drawings

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character "6" has been used to designate both a center of mass and a moment (Page 4 Lns. 15-17). Correction is required. ✓

Specification

2. The disclosure stands objected to because of the following informalities: It is uncertain what the difference is between the moment 6 and the moment 10. The specification states that both moments are produced by force 8 and both act on the center of mass (Page 4 Lns. 14-22). The correction in page 1 of the amendment was not entered since it did not disclose where on line 22 of page 4 of the specification the words should be inserted. ✓

Appropriate correction is required.

3. The disclosure stands objected to because of the following informalities: A force (Ref. No. 8) cannot produce a moment (Ref. Nos. 6 and 10) about a point (Center of mass of the head, Ref. No. 6) if a force intersects that point. A moment arm is needed to produce a moment about point. ✓

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It appears that moments 6 and 10 are about the center of mass where the force is acting on the head (Page 4 Lns. 14-25. Figs. 2A, 3).

Claim Rejections - 35 USC § 112

4. Since claim 4 is canceled, the rejection under 35 U.S.C. 112, second paragraph, has been removed.

5. Claim 3 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 3 is indefinite in that it states a range of an outside diameter of a butt end of .520 to .540 inches yet claim 1 which it depends on sets the butt end diameter of about .460 inches which is outside the range of .520 to .540 inches. ✓

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

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having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Akatsuka (5,437,450).

Akatsuka discloses a shaft comprising a plurality of layers of fibers in a form of an inner, outer and reinforcement layers (Figure) imbedded in a synthetic resin in a form of a plastic material epoxy resin (Col. 4 Lns. 24-35, Col. 5 Lns. 1-7), a butt end of relatively larger cross sectional diameter (Col. 5 Lns. 62-68) tapering without intervening discontinuities to a tip end of relatively smaller diameter in a form of an outer diameter gradually increasing from one end adjacent to a tip end of a shaft to an other end adjacent to a grip end of a shaft (Col. 3 Lns. 56-60), a tip end having an outside diameter adapted to be attached to a head in a form of a size of an inside diameter of 2-6 mm and wall thickness 1.2-3.2 mm (Col. 5 Lns. 62-68), a butt end having an outside diameter of from .520 to .540 inches in a form of an inside diameter of 11.5-14.5 mm and a wall thickness of .5-2.0 mm, and a butt end having a wall thickness of between .04 and .045 inches in a form of having a butt end wall thickness of .5-2.0 mm (Col. 5 Lns. 62-68). Clearly an artisan skilled in the art of making a shaft with the right length and butt size to fit players with smaller hands and shorter heights, as for example children, would have selected a suitable butt end outside diameter in which a diameter of about .460 inches is included.

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The difference between the claims and Akatsuka is that Akatsuka does not disclose a butt end diameter as defined by the claims.

It
~~Therefore it~~ would have been obvious to modify a shaft of Akatsuka to have a butt end diameter as defined by the claims in order to fit a player with smaller hands.

8. Claims 5, 7-9, 11 and 13-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Akatsuka (5,437,450) as applied to claims 1-3 above, and further in view of Hogan.

Akatsuka discloses two inner layers of fibers in a form of two kinds of wound layers in an inner layer imbedded in epoxy and having fibers oriented at angles of +45 degrees and -45 degrees relative to an axis of a shaft (Col. 3 Lns. 64 through Col. 4 Ln. 35), a butt end having an outside diameter of from .400 to .560 inches, and a butt end having at least one cross-section diameter between .450 and .475 inches in a form of an inside diameter of 11.5-14.5 mm and a wall thickness of .5-2.0 mm (Col. 5 Lns. 62-68).

The differences between the claims and Akatsuka are that Akatsuka does not disclose graphite fibers, a butt end comprising a substantially cylindrical cross section, a taper of an intermediate section being more significant than in a tip and butt section, and a tip end including parallel sidewalls. Hogan discloses shaft made with graphite fibers (Col. 3 Lns. 56-64), a butt end having a cylindrical cross section, a taper of an intermediate section being more significant than a tip and butt section, and a tip end including parallel sidewalls (Fig. 2). In view of the patent to Hogan it would have been obvious to have graphite fibers in order to have a stronger shaft. In

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addition, it would have been obvious to have to have a butt end, intermediate section, and a tip end as defined by the claims in order to have a lower kick point to obtain more elevation when hitting a ball for the same swing by having a stiffer butt end and a more flexible tip end.

9. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Akatsuka (5,437,450) as applied to claims 1-3 above, and further in view of Hogan and Akatsuka (5,156,396).

The differences between the claim and Akatsuka (5,437,450) are that Akatsuka (5,437,450) does not disclose an intermediate layer of graphite fibers embedded in epoxy and fibers being oriented longitudinal to an axis of a shaft. Akatsuka (5,156,396) discloses a shaft with an intermediate and outer layer embedded in epoxy and fiber being oriented longitudinal to an axis of a shaft (Figure, Col. 2 Lns. 60 through Col. 3 Ln. 11). In view of the patent to Akatsuka (5,156,396) it would have been obvious to modify the shaft of Akatsuka (5,437,450) to replace the outer layer with an intermediate layer as defined by the claims and an outer layer of Akatsuka (5,156,396) in order to have a shaft with more longitudinal stiffness. See paragraph 7 for elements previously rejected by Akatsuka (5,437, 450) in view of Hogan.

10. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Akatsuka (5,437,450) in view of Hogan as applied to claims 5, 7-9, 11 and 13-20 above, and further in view of Akatsuka (5,156,396).

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See paragraph 8 for elements previously rejected by Akatsuka (5, 437,450) in view of Akatsuka (5,156,396).

Response to Arguments

sp 11. With respect to claim 7 the argument that Akatsuka does not suggest a range of .400 to .560 inches is disagreed with. Column 5 lines 66-68 clearly states that a grip end has an inside diameter of 11.5 -14.5 mm and a wall thickness of 0.5-2.00 mm which gives a range of 12-16.5 mm which is .472-.649 inches which has a diameter in the range of .400 to .560 inches. The statement of the criticality of the range is understood however ^{would have been} it obvious to modify Akatsuka to come up with the same parameters for other reasons as for size of a player and positioning of a kickpoint. The argument that it is improper to combine Hogan with Akatsuka due to the dimensions of Hogan is disagreed with. The patent of Hogan was used only to show the teaching of having cylindrical butt and tip ends to obtain a specific flexibility in a shaft.

12. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after

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the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Conclusion

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steve Blau whose telephone number is (703) 308-2712. The examiner is available Monday through Friday from 8 a.m. to 4:30 p.m.. If the examiner is unavailable you can contact his supervisor Jessica Harrison whose telephone number is (703) 308-2217. Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 308-0858.



slb/ 22 April 1998



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